



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/520,520

01/07/2005

Hiroshisa Tanaka

71465.00011

9264

57362 7590 03/03/2008  
AKERMAN SENTERFITT  
801 PENNSYLVANIA AVENUE N.W.  
SUITE 600  
WASHINGTON, DC 20004

EXAMINER

D'ANIELLO, NICHOLAS P

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

03/03/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/520,520	<b>Applicant(s)</b> TANAKA ET AL.	
	<b>Examiner</b> Nicholas P. D'Aniello	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/23/07, 11/16/06, 11/3/06, 7/6/06, 3/9/06, 1/26/06</u>       | 6) <input type="checkbox"/> Other: _____                          |
| <u>and 1/7/05</u>  |   |



## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshiyuki et al. (Patent Abstracts of Japan JP 63-302950 hereinafter "Yoshiyuki") in view of Noguchi et al. (US Patent No. 4,237,030 hereinafter "Noguchi").

Yoshiyuki teaches a process for producing a catalyst for waste gas purification in which an un-crystallized composition of perovskite composite oxide compound containing a noble metal is heat treated together with alumina (see abstract, International Preliminary examination report). The independent claims 1 and 8 differ from the reference in calling for the use of alpha or theta alumina. However, it would have been obvious in the art that to use alpha or theta alumina in the catalyst of Yoshiyuki because Noguchi teaches a catalyst for purifying exhaust gas where the catalyst support is mainly comprised of alpha-alumina because it is the most thermally stable form of alumina, which is desirable for high temperature application such as exhaust (waste) gas purification (column 4, lines 28-39).

In regard to claim 5, alumina inherently contains  $\text{Al}_2\text{O}_3$  which falls in the claimed range.

3. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshiyuki et al. (Patent Abstracts of Japan JP 63-302950 hereinafter "Yoshiyuki") and Noguchi et al. (US Patent No. 4,237,030 hereinafter "Noguchi") as applied to claim 1 above, and further in view of Kaneko et al. (US Publication No. 2001/0053467 hereinafter "Kaneko").

Yoshiyuki and Noguchi teach a method of making a catalyst as applied to claim 1. Claims 2-4 differ from the references in calling for the perovskite-type composite oxide to conform a general formula (1) [claim 2] or one of (2)-(4) [claim 4] where the noble metal is Rh, Pd, or Pt [claim 3]. However, it would have been obvious that the perovskite composite would conform to such a formula and contain such a noble metal because Kaneko teaches a catalyst composition containing a perovskite composite oxide of the type expressed by a rational formula  $ABO_3$ , wherein A consists of two types of constituent elements of A' and A" and B consists of two types of constituent elements of B' and B", and the perovskite composite oxide is expressed by a general formula  $A'_1-xA''_xB'_{1-y}B''_yO_3$ . The A' is La or Ce, the A" is at least one element selected from the group consisting of La, Ca, Sm, Ce, Sr, Ba and Pr, the B' is at least one type element selected from the group consisting of Co, Fe, Mn and Gd, and the B" is any one type of a noble metal such as Ru, Rh, Pd, Pt, or the like. Further, Kaneko does not preclude y or x from being 0 and therefore this composition includes  $LaFe_{1-y}Pd_yO_3$  (see abstract, paragraph [0014]). This catalyst composition has a wide range of use and high durability in an oxidizing atmosphere (such as clarifying exhaust gas) (paragraph [0037])

4. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshiyuki et al. (Patent Abstracts of Japan JP 63-302950 hereinafter "Yoshiyuki") and Noguchi et al. (US Patent No. 4,237,030 hereinafter "Noguchi") as applied to claim 1 above, and further in view of JP 11-262663 (hereinafter JP '663).

Yoshiyuki and Noguchi teach a method of making a catalyst as applied to claim 1. Claims 6 and 7 differ from the references in calling for preparing the composition by mixing the solution containing alkoxides of the perovskite with an organometallic salt of the noble metal. However it would have been obvious to one of ordinary skill at the time the invention was made to make the pre-crystallization composition in such a manner because JP '663 teaches a method of making a catalyst by using an organometallic salt of the noble metal (specifically platinum) and an alkoxide other than one of the noble metal as starting materials for a catalyst for waste gas purification. Further, the desirability to mix the organometallic salt with a solvent such as alcohol or ether and mixtures thereof and the ability to obtain a gel by mixing with acetyl acetone (a diketone, claim 7) is taught (claim 2, paragraph [0016], a machine translation of the publication has been provided, ARUKOKISHIDO meaning organometallic).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas P. D'Aniello whose telephone number is (571)270-3635. The examiner can normally be reached on Monday through Thursday from 8am to 5pm (EST).

Art Unit: 1793

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NPD  
2/21/2008

/Jerry A Lorengo/  
Supervisory Patent Examiner, Art Unit 1793